

REMARKS

The present invention involves a fuel tank for a motor vehicle having a plurality of surge chambers and a plurality of fuel pumps for delivering fuel to the vehicle engine from the plurality of surge chambers. The invention could advantageously be used in so-called saddle tanks where fuel is frequently unevenly distributed between areas within the tank. Surge chambers holding fuel pumps at different locations have heretofore been open top vessels, which when filled to capacity are then permitted to overflow into the fuel tank proper. Since unnecessary recirculation of fuel has deleterious side affects, existing apparaustus have attempted to stop, or to at least reduce the amount of recirculation. For example, float mechanisms have been suggested as one means to control the quantity of fuel flowing into a surge chamber. However, in addition to the expense of construction and installation, these control systems can present difficult maintenance problems.

This invention eliminates the need for mechanical flow control apparatus by providing a fuel tank having a plurality of surge chambers, each of which contains a fuel pump for feeding fuel from the surge chambers to the internal combustion engine of the motor vehicle. In the construction described in the specification and shown in the drawings, each of the surge chambers 6, 6' is defined by a vessel that is sealed, so that as fuel fills the chamber the internal pressure rises and creates a counterpressure which increases the resistance to further inflow by reducing the pumping capacity of the filling jet pumps. This design of the fuel tank enables fuel to be conducted preferentially into the surge chamber which has the smallest counterpressure.

Referring to the Office communication, claim 1, which is the sole independent claim, stands rejected under 35 U.S.C. 102(b) as being anticipated by Fischerkeller, U.S. Patent 6,371,153. Specifically, in paragraph 5 on page 2 of the Office communication, it is stated

“...the jet pumps are fed from pickups (86) which can back up if the pressure goes too high in the line (82) thereby relieving the pressure in the surge tank(s).”

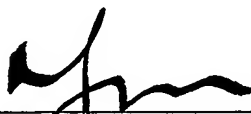
A thorough study of the ‘153 patent indicates that construction and operation of the cited structure are not capable of operation in the manner suggested by the language quoted above. In the ‘153 patent, tank portions 22 and 26 first contain second reservoirs or surge chambers 42 and 46 respectively. Reservoirs 42 and 46 are, as stated in lines 34-35, col. 3, “...at least partially open at the top” Further in col. 3 at lines 61-64, it is stated: “The constant supply of fuel 58 means the reservoirs 50, 54 are substantially always full and overflowing into the respective tank portions 22, 26 during normal operation.” As a result of the reservoirs being open-top and overflowing, it is evident that no counterpressure can be present to effect the inflow of fuel through fuel supply line 90.

The Office communication states that the jet pumps are fed from pickups 86 which can back up if the pressure goes too high in line 82. Actually, jet pumps 78 are driven by the fuel coming from pumps 50, 54 and passing through jet pump supply line 90. The fuel drawn into pickups 86 and passing through line 82 cannot “back up” since it is being aspirated by the jet pumps. The specification is therefore accurate when it designates line 82 as a “suction line 86,” (line 31, col. 3). In any event, since the reservoirs are open vessels there can be no build up of a counterpressure that would in any way affect operation of the jet pumps 78.

Claim 1 of the instant application has been amended to more clearly state the unique control of fuel inputs into the surge tanks, by means of the counterpressure created *vis-a-vis* the sealed surge tanks. The ‘153 patent fails to disclose or to suggest any structure that can operate in the same or in a similar manner as that of applicant’s. Reconsideration of the rejection of the claim based on the ‘153 patent is therefore respectfully requested. Similarly, since the remaining

claims all ultimately depend from claim 1, they should also be allowable. Formal notice of allowance of the application is respectfully requested.

Respectfully submitted,



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